TRANSACTIONS

OF THE

PHILADELPHIA ACADEMY OF SURGERY

Stated Meeting Held November 2, 1925

The President, Dr. Edward B. Hodge, in the Chair

IMPROVED SUPRAPUBIC DRAINAGE APPARATUS

Dr. Benjamin Thomas exhibited an apparatus which with various modifications had been in use in his hospital services for the past ten years. It consists of metallic, bevelled-edged cup, having a Y-like drain, one arm of which leads from the dome, the other from the lower portion near the rim. In the concavity of the cup, screwed to the drainage exit, is a detachable metal tip to which is attached a rubber tube for introduction into the bladder. To the stem of the Y rubber tubing is attached leading to a bottle under the bed or if the patient is ambulatory, to a rubber bag strapped to the thigh. The cup is held in position by a belt passing around the abdomen; this is made to be easily detachable to the exterior of the cup. Through eyelets near the brim of the lower extremity of the cup, a rubber perineal tube or cord passes between the legs and is tied to riders on the belt at the level of the iliac crests.

The saving in the cost of gauze and cotton by this apparatus in suprapubic cystostomy is enormous.

The cup as it stands to-day has certain definite dimensions. These are necessary in view of the fact that the distance between the central drainage area and the lower part of the cup must be shorter than the distance between this drainage exit and the top; otherwise there will be too much impingement on the symphysis resulting in excoriation of the skin. The distance from the centre to the bottom is 5 cm. and from the centre to the top is 6 cm. The width is 7 cm. A material advantage of this cup is that if there occurs leakage around the tube entering the bladder, the urine escaping into the concavity of the cup drains out the lower arm near the brim and in this way all drainage will be taken care of.

The central metallic attachment is removable, with the tube entering the bladder, usually at the end of two days. The latest improvement has been this rubber cushion ring recently provided by Eynard, of Paris, which can be sterilized by an antiseptic solution or by boiling for one minute and has the advantage of lessening the excoriation and making the patient more comfortable and permitting of less leakage. Nine out of ten patients can be kept dry by this drainage apparatus; occasionally, in large fat individuals, or in exceptionally thin patients, we find some difficulty.

2. *New Prostatectomy Lobe Forceps.*—These forceps are similar to the usual stone forceps, except that they have heavy teeth so that when the lobe is grasped there will be no slipping. The main feature making the forceps useful is that the tips of the blades are fairly thin, and it is easy to slip the blade between the prostate and the false capsule; in the case of Young's forceps the tips are too blunt or "bull-nosed." These forceps are also used suprapubically in removing prostatic lobes from the bladder or prostatic urethra.

3. *Prostatic Bar Punch.*—This instrument is a punch which is to be used suprapubically. It is essentially a giant-sized Gartman's tonsil punch. One is often unable to punch out the obstructive bar at the neck of the bladder with Young's punch. In such case this instrument will be found useful. Occasionally there is a great deal of bleeding following the punch operation, but if the punching is associated with a cystotomy, one has it under control and hæmostatic measures can be applied immediately. Moreover, if there be a bad cystitis, efficient drainage can be instituted and lives saved.

COMPLETE EXTIRPATION OF THE PENIS

Dr. Thos. C. Stellwagon presented two cases. In one case the carcinoma of the penis that had involved the urethra and both groins was so extensive that he was passing urine through a number of sinuses. A complete extirpation of the penis was done. His cure was delayed by infection. He has gained fifteen pounds in the two years following his operation. He has complete vesical control. Previous to operation this man had had radium treatment. He had had five cases altogether, two are alive, one at five and one-half years since operation and the other at three and one-quarter years.

The second case was operated on in the Jewish Hospital in May. At the extirpation some portion of the scrotal sac was left.

In operating upon these cases he had used the ordinary circular amputation with removal of the lymph-nodes; this has been done in six cases, four of whom are alive. In cases where the growth extends to the abdominal cavity, it is necessary to go up to the bifurcation and try to remove the sheath of the vein. The more radical the operation the safer it is for the patient. He always asks the patients if they wish to retain the testicles, but he believed attempts to save the testicles left a distinct menace to the patient. In one patient where the testicle was saved, the patient later asked that it be removed, because of the physical discomfort it caused him, for he had to lift it when he wanted to urinate.

He did not mean to preach the radical operation because if one gets these cases early enough he believed one can effect cures by the ordinary circular amputation.

Dr. Benjamin Thomas said that he had operated on seven or eight cases of carcinoma of the penis; of these, three were total extirpations, but in all he left the testicles behind. He entered a plea for the conservation of the testicles in this operation of complete extirpation of the penis. Total

emasculation is unnecessary, is disfiguring, and extremely undesirable on the grounds that it may lead to destruction of the normal internal, if not the external, sexual characteristics, on the grounds that the testicles may possess an internal secretion. The characteristics of the Eunuch must not be forgotten.

Dr. James R. Wells referred to a case of this kind operated upon by himself. A total extirpation had been performed two and one-half years before. The man was thirty-two years of age. He stated that following his operation he had had absolutely no difference in his feelings or in his sexual life.

ECHINOCOCCUS CYST OF LIVER

Dr. Henry P. Brown, Jr., presented a man, twenty years of age, a native of South America, who came to the Presbyterian Hospital in April last, on account of pain and swelling in the epigastrium. He was referred to Doctor Allen's service, to whom he was indebted for the privilege of operating upon and reporting the case. The man first noticed in 1923 that his abdomen was getting larger in its upper part. He had no discomfort or other symptoms. About one year ago (1924), he began to have pain in the right side of the epigastrium when he worked hard or lay on his right side. There was no pain or tenderness at any other time. No jaundice, loss of weight, or gastro-intestinal disturbance. There was slight loss of strength. He can eat all kinds of foods and has no dislike for fats. There is no dyspnœa or œdema of feet or ankles. Slight cough for past three years, especially at morning and night. No hæmoptysis. Night sweats for past five years. Feels hot and flushed in afternoons. Pleural effusion without pneumonia seven years ago. No genito-urinary or nervous symptoms.

He had lues in 1924, for which he received salvarsan. He is a laborer, is single, and the family and social histories are unimportant. He has been in this country about two years. He was well developed, rather poorly nourished and presented no evidence of jaundice. The head, neck, chest, heart and lungs are essentially normal. The upper abdomen is much enlarged and palpation reveals a mass which fills the upper abdomen on both sides. It is quite hard and smooth and not tender, the impression from palpation and percussion being that it is an enlargement of the liver and spleen, meeting in the midline. Dulness in the flanks is present and there is an impulse transmitted through the mass on tapping the abdomen.

The temperature, pulse, and respirations on admission were 98.3–90 and 20, respectively. Wassermann positive and urine analysis essentially normal. Blood count showed red blood-cells 3,820,000, white blood-cells 6800 and hæmoglobin 76. X-ray reports that: "On right side there is a marked flattening of the diaphragm, loss of cardiophrenic and costophrenic angles. Upper border of diaphragm reaches to sixth rib. Below diaphragm on right side, extending over toward left side, is a uniform shadow, in upper central portion of abdomen. Impossible to give any detail of this shadow." An exploration was done. The liver was greatly enlarged and in the anterior and diaphragmatic surfaces there presented a large cyst which rose above the substance of the liver. The wall of the cyst was smooth and tense. After walling off the intestines and peritoneal cavity it was aspirated, clear colorless fluid being evacuated. One small typical daughter echinococcus cyst escaped, and four quarts of fluid were removed from the main cyst cavity. A rubber tube was sewn in for drainage, a piece of the wall removed for the pathological laboratory and marsupialization done. The finger could not palpate the depth of the cavity, it being about 10 to 15 cm. deep.

In spite of slow evacuation of the cyst contents, his pulse rose to 160, coming down in twenty-four hours to 112. There was a moderate post-operative febrile reaction which subsided in four days.

He drained profusely and it was not till the twentieth post-operative day that daughter cysts began to appear. He was discharged from the hospital July 8, sixty-five days after operation, at which time the cavity held two ounces, pieces of cyst were occasionally recovered and a small drainage tube was still in place. His cyst cavity had been irrigated daily with Dakin solution.

He was treated in the dispensary for eighteen days, during which time the drainage became more profuse and daughter cysts were recovered at each dressing. He had no discomfort, was feeling well and was anxious to be readmitted and have an attempt made to close the cavity.

Thinking that it might be possible to enucleate the wall of the mother cyst, the reporter reoperated upon him on July 24, 1925. The external opening of the sinus tract was dissected free and the cyst cavity opened and explored, the peritoneal cavity having been walled off by adhesions. The cyst cavity extended upward toward the diaphragm to about the level of the sixth rib on the right side. Its lining felt thick and leathery and contained many crypts. It was considered inadvisable to attempt to remove the lining and the cavity was wiped out with gauze and a large rubber tube sewn in place. Patient reacted satisfactorily from the operation and second-hour irrigation of the cavity with Dakin solution was instituted. The daughter cysts continued to be discharged quite freely for a few days and then began to show disintegration, the last one being seen on the ninth day after irrigation was begun.

He was discharged on the forty-eighth day, having only a small sinus which discharged very slightly. October 29 he was seen and his sinus had entirely closed, the abdominal wall was strong and there was no evidence of a recurrence.

Doctor Brown presented a second case in the person of a woman, a native of Armenia, aged thirty-two years, who was admitted to the Presbyterian Hospital in Dr. E. H. Goodman's service May 5, 1925, on account of colicky abdominal attacks with vomiting, from which she had been suffering at intervals for a month. There was also a mass to be felt to the right of the umbilicus, which has increased in size. The first attack of pain lasted about one week and then disappeared. It has since then occasionally returned for short periods. She first noticed the mass in her abdomen four years ago, at which time she says it was much smaller than when her physician saw it in April. She has never been jaundiced and her bowels are somewhat constipated. She has always been well except for some dysmenorrhœa. Has not lost weight.

Her abdomen was flat and scaphoid, no tenderness or rigidity. There were two masses in the right upper quadrant, hard in consistency, each about the size of a peach, the upper one seeming to be attached to the lower edge of the liver while the lower is in the right kidney region. Both seem superficial and move with respiration, while the lower moves with pressure over the kidney region posteriorly and gives the impression of being attached to the kidney. Pressure on one mass moves the other. The rest of the abdomen is negative.

June 15, 1925, Dr. Edw. B. Hodge opened the abdomen. The ascending colon was found to be pushed to the right wall of the abdomen. Dense omental adhesions obscured a hard, firm, pyriform mass originating from the inferior surface of the right lobe of the liver. The base of the mass extended into the hepatic tissue. While attempting to release the mass there was sud-

denly released a large quantity (about 400 c.c.) of clear straw-colored fluid, and from the rupture in the wall of the cyst there was released many small cystic bodies, typical of echinococcus. The cyst was packed off from the rest of the abdomen and the opening enlarged, evacuating about eighty to one hundred daughter cysts, varying from 2 mm. to 5 cm. in diameter. The mother cyst extended upward into the liver, toward the left lobe. The gall-bladder was apparently normal. The inferior of the cyst was scraped with gauze and marsupialized to the peritoneum. A cigarette drain was placed under the liver and the cyst cavity tightly packed with gauze. The wound was closed in layers.

The patient made an uneventful recovery, the gauze drain being removed in five days and a rubber tube substituted. There was at this time a good deal of sanguinous discharge, the patient being quite comfortable.

Fifteen days after operation she was discharged with a small rubber dam in the cyst. From this point she was treated by her family physician.

At examination made October 29 the sinus was found to be closed; the patient to be in good health; there is no evidence of recurrence.

Dr. Edward B. Hodge remarked as to the second case reported by Doctor Brown, that there were two distinct masses present, on palpation. One was in the convex border of the liver and the other was lower down, a little lower than where we ordinarily find the enlarged gall-bladder.

The upper mass was firm and tender, and he thought it was carcinoma of the liver. It turned out to be all one cyst. This was the first case of the kind that he had ever had.

Replying to Doctor Ashhurst's question as to whether this cyst was recognized as an echinococcus cyst at operation, he said that he did not know it was before operation, but recognized it at that time. If the sinus had not healed he had intended to formalize.

Dr. A. P. C. Ashhurst said that most patients with hydatid cyst, who are treated simply by evacuation and drainage have recurrences if they are traced long enough. Experiments have shown that every element of the contents of an hydatid cyst may be an infectious medium and hence the cause of recurrence. Quénu (1902) adopted the method of formalization, aspirating the cyst through a very fine needle and injecting the cyst until distended with one per cent. solution which is allowed to remain for five minutes. After evacuation of the formalin, the cyst may be obliterated by sutures. No recurrences are to be anticipated after this treatment; and he believed if the method were better known, it would be more used.

PARTIAL HYDRONEPHROSIS CAUSED BY PRESSURE FROM DOUBLE URETER

Dr. Henry P. Brown, Jr., presented a woman of twenty-eight years, who was admitted to the Gynæcological Service of the Presbyterian Hospital, May 21, 1925, on account of pain in the left flank, from which she had suffered for the past eight years.

This pain was referred to her left side, just below the twelfth rib in the posterior axillary line. The pain comes on irregularly every two weeks to six months and usually lasts from eight to twenty-four hours. It is quite

severe at times and causes her great distress. The pain does not radiate along the ureter, it always remaining localized. She has never taken morphia to relieve it. The attacks are gradually becoming more severe and more frequent, the most recent one having occurred one month ago and lasting twenty hours, the one preceding this having been about one month before. Urination was not painful and there was no frequency or urgency. Hæmaturia or pyuria had never been observed.

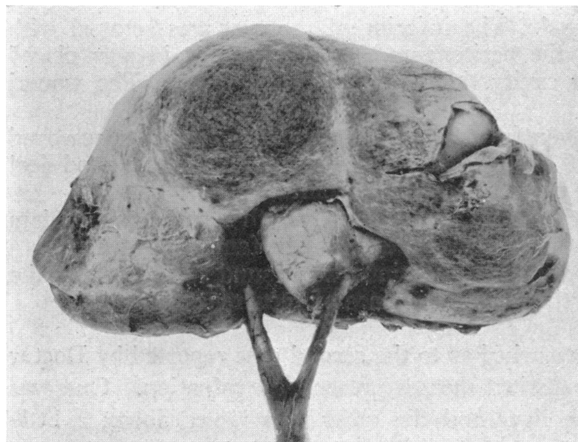

FIG. 1.—Shows ureters untwisted. Cystic portion extends to line of branch of ureter on left.

The sight of food causes nausea during an attack of pain, often accompanied by vomiting. There has been no gaseous eructations and no indigestion before or after the attacks. Bowels are regular without cathartics and there has been no blood or mucus in the stool, nor has she had any fever, chills or sweats.

She was a rather poorly developed, under-nourished, visceroptotic type of young woman in no apparent distress; good color, no jaundice, dyspnœa or cyanosis; skin warm, smooth and moist without noteworthy lesions.

The head, neck and chest with their contents are essentially normal, aside from a large pair of tonsils. The blood-pressure is 105/65. The abdomen is scaphoid and no masses or tenderness are elicited. The liver, spleen and kidneys are not palpably enlarged, and there is no costovertebral tenderness. Reflexes are normal and the extremities are likewise negative.

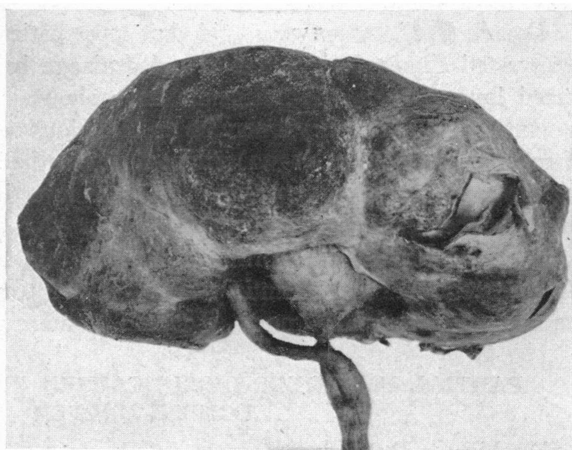

FIG. 2.—Natural position showing constriction of ureter to lower segment.

The urine varied from 1010 to 1020 for specific gravity, albumin was never present and there were occasionally a few white blood-cells present. The blood showed red blood-cells 3,700,000, leucocytes 14,400 and hæmoglobin 74 per cent. Blood urea nitrogen was 18 mgs. P.S.P., first specimen of 110 c.c. showed 45 per cent., second of 90 c.c. showed 20 per cent., a total of 65 per cent. Blood Wassermann was negative.

After repeated cystoscopic examinations with pyelograms and skiagrams the conclusion was reached that she had a movable left kidney, with renal

colic from pelvic distention, without obstruction in the lower ureter when recumbent.

May 5, 1925, by the usual oblique loin incision, the kidney was exposed. It was found to be freely movable, contained a fair amount of fat in the pelvis, and was not very adherent to the peri-renal fat. It was readily exposed and found to be moderately enlarged and contained a large cystic mass in its lower two-thirds. The mass was aspirated and about four ounces of clear urinous fluid was removed. The whole mass collapsed and there remained a small amount of kidney substance at the upper pole. The ureter was clamped and a pedicle clamp was applied to the vessels, the kidney removed and the ureter and vessels ligated. A cigarette drain was inserted and the wound closed. She made an uninterrupted recovery and was discharged on the sixteenth day after operation. At that time a P.S.P. showed, first specimen, 400 c.c. with 25 per cent., second specimen 90 c.c. with 15 per cent.

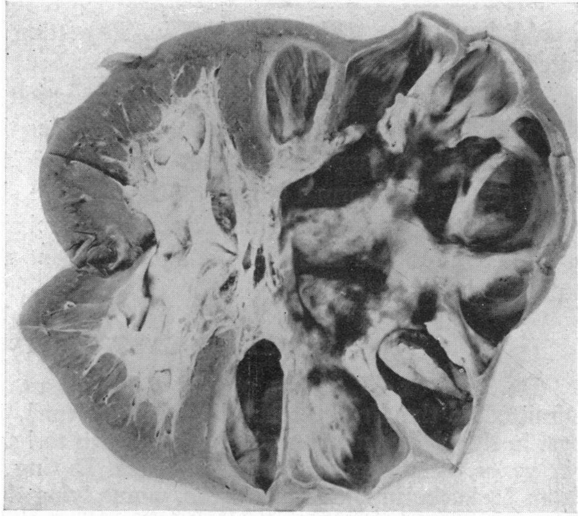

FIG. 3.—Shows cyst, with remnant of normal kidney tissue at upper pole. The pelvices did not communicate.

The laboratory report by Dr. John Eiman, is as follows:

Specimen consists of a kidney 13.5 x 6.5 x 6 cm. Capsule strips fairly easily and leaves a pale reddish, smooth surface. Fetal lobulations are fairly distinct. There are two ureters, one joining the other 2.5 cm. and 6 cm., respectively, from the point of origin. The shorter limb of the ureter leads into a distinct funnel-shaped pelvis. The two ureters were twisted in such a way as to cause obstruction of the shorter limb. The dilated pelvis is continuous with an irregular cavity which roughly occupies little more than one-half of the kidney and must have been produced by back pressure of urine leading to dilatation of the pelvis, calices and atrophy of the renal substance. The longer fork of the ureter drains the other, upper, pole of the kidney. This part of the kidney shows no gross lesions. The two branches of the ureter communicate with two separate and distinct pelvices, hence the obstruction in one limb produced hydronephrosis in that portion of the ureter drained by the obstructed ureter.

Microscopically: Low-grade chronic interstitial nephritis and dilatation of the capsule of Bowman, indicating effects of back pressure on all parts of the kidney.

For the privilege of operating upon and reporting this case, the reporter was indebted to Dr. E. B. Hodge, in whose service she was treated. A letter received from the patient to-day, six months later, stated that she had never had a recurrence of her former trouble. "After leaving the hospital I rapidly regained my strength and have felt better in the last five months than in the preceding eight years. I have called myself cured."

Dr. Leon Herman thought that the pyelographic medium could not enter the dilated pelvis in this case, the ureter being completely obstructed. However, it is advisable in doing pyelography to withdraw the catheter slowly while the medium is being injected with which method one is more likely to demonstrate reduplications of the upper ureter. He preferred to block the lower ureter with a large catheter and inject the urinary tract with the patient in the Trendelenburg posture; this insures complete filling of the tract with the exception of those parts that are closed off. The presence of an abnormally small pelvic shadow in the pyelogram is always indicative of the presence of a congenital anomaly of the upper ureter and pelvis. If the presence of a small pelvis had been demonstrated in the case under discussion, the surgeon would have been quite justified in suspecting the presence of reduplicated pelvis.

As regards the possibility of partial resection in cases of double kidney, this will depend to a large extent upon whether the ureters have separate or communal blood supplies. In this case with high division of the ureter and the presence of a normal kidney on the opposite side, he thought the removal of the kidney was clearly indicated. The probabilities are that a resection would have resulted badly; the retained segment would in all probability have suffered gradual atrophy.

SOLITARY CYST OF KIDNEY

Dr. George M. Laws presented a woman, age sixty years, who was admitted to the Presbyterian Hospital in April, 1924. She had a movable cyst in the right abdomen which was known to have been present for at least six years without much increase in size. During this time she had suffered from backache in both renal areas, worse lying down, and occasionally quite severe. The tumor was not tender. Vaginal examination excluded any connection with the pelvic organs. There were no urinary symptoms. Cystoscopic examination showed the bladder and ureteral orifices to be normal. There was no pelvic retention. Specimens of urine, collected by ureteral catheters, were practically identical on both sides, showing a few leucocytes and excretion of approximately equal amounts of indigo-carmine. An ureterogram was made and the patient discharged the next day.

She was readmitted in April, 1925, having noticed an increase in the size of the tumor within four months, during which time she had had pains in both flanks, "like labor pains," every few days, and more recently severe pain in the thighs. X-ray showed calcification of blood-vessels and mild degree of osteoarthritis of the spine. Blood and blood chemistry were practically normal.

Dr. John H. Girvin operated through an abdominal incision and found the thin-walled cyst to be dark blue, about 4 inches diameter, and its contents to be a clear, amber-colored fluid. He did a transperitoneal nephrectomy which required the ligation of an aberrant artery at the upper pole of the kidney. Operative recovery was complicated by a temporary aphasia on the tenth day accompanied by high blood-pressure.

The diagnosis of cyst of the kidney having been confirmed by the ureterogram, showing displacement of the ureter, it seemed that polycystic disease could be excluded by the facts that the cyst was unilateral; that it developed

late in life; had a smooth outline; kidney showed good function; no septa were shown by X-ray. As between solitary cyst and hydatid cyst the hydatid is described as fixed and non-fluctuating. Had a complement fixation test been done it would have helped to eliminate hydatid cyst and narrowed the possibilities down to a fairly positive diagnosis of solitary cyst. Furthermore the presence of advanced arterial sclerosis is a point in favor of solitary cyst, since these formations are probably caused by sclerosis. However in the reported cases the diagnosis has rarely been made.

The specimen (Fig. 4) consisted of a kidney, 17 x 8 x 5.2 cm. At one pole there is a cyst which has been opened and measures approximately 10 cm. in diameter. The wall of the cyst is thin and on the inner surface shows dense fibrous tissue trabeculæ. The inner lining is pale, glistening and smooth. The cyst does not communicate with the pelvis of the kidney. The kidney is firm in consistency. Capsule is slightly, but uniformly thick. The fetal lobulations are fairly distinct. The capsule strips with difficulty and carries with it real substance, leaving a rather coarsely granular reddish to yellowish surface. Section does not bulge. Cortex measures 5 mm. Medulla about 17 mm. Color of the cortex and medulla is reddish to yellow. Renal vessels are markedly sclerosed and stand out like pipe-stems. There are excessive amounts of fat in the pelvis. The lining of the pelvis and calyces is for the most part smooth, pale and glistening. A few areas, however, show hemorrhages. At the pole opposite to that containing the cyst, there is an aberrant artery.

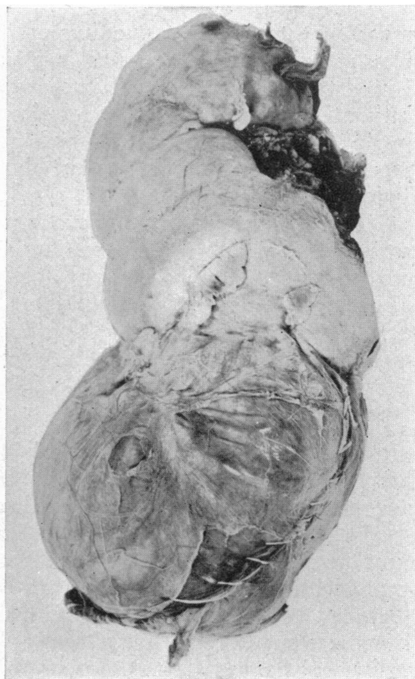

FIG. 4.—Solitary cyst of kidney.

Microscopic Examination: Simple solitary cyst of the kidney. Low-grade chronic interstitial nephritis and marked arterio-sclerosis.

ABSCESS OF URACHUS

DR. ALEXANDER RANDALL presented a man, forty-one years of age, who was admitted to the Philadelphia General Hospital, September 26, 1919, on account of a swelling in the lower abdomen. He had had an attack of specific urethritis five months before, but the condition apparently cleared up under treatment without any complications; no history of any other serious illness or operations; urinary function has always been normal. Four or five days before admission he first noticed a painful swelling in the midline of the lower abdomen below the umbilicus; since then he had been increasingly indisposed, has had a fever, but no definite chill; has had some slight frequency of urination associated with terminal pain.

In the lower abdomen was found a large swelling situated between the symphysis pubis and the umbilicus; it is prominent to the eye and on touch is firm, rather fixed, round, smooth and tender, and is oblong in shape. It measures approximately 14 x 9 cm., the larger measurement in the longi-

tudinal axis of the body. There is no evidence of any connection or attachment to the bladder and the mass feels some larger and more superficial than a distended bladder would. The urine as voided by the patient contains shreds. Urinalysis negative, 1018. No stone felt in the bladder. Cystoscopic examination revealed an area of peculiar bullous œdema in the vertex of the bladder with a central area of increased hyperæmia. In the actual centre of this was seen a pencil of white material hanging into the bladder cavity, which was waving back and forth by the flow of the irrigating fluid. It measured approximately 3½ to 4 cm. in length by 6 or 7 millimetres in diameter and appeared similar to a pencil of tooth paste being squeezed from its tube. On this finding a diagnosis of infected urachus was made.

October 6, 1919, operation. An attempt was made to free the abscess mass in toto without opening up the peritoneum with an idea of complete bloc excision. However, as is usual in such urachal lesions, the walls were found to be exceedingly thin and their approximation to the peritoneum was intimate so that separation was impossible. A simple incision was therefore made and the cavity packed with iodoform gauze. Culture of the pus was subsequently reported from the laboratory as infected with Friedlander's bacillus.

The patient made an uneventful recovery except for an abscess in the scrotal wall which was opened and drained. Granulation of the large abscess cavity was slow and it was not until two months had passed that closure of the large drainage area had granulated completely. There was also a separation of the recti muscles and for this reason it was necessary to fit the patient with a proper lower abdominal belt to prevent an incisional hernia.

TUMOR OF URACHUS

Doctor Randall presented a man, aged thirty-nine years, who was admitted to the University of Pennsylvania Hospital, June 18, 1925, on account of pain at end of urination.

In August, 1924, the man had an operation for hemorrhoids, since which time he claims not to have been free from pain. For three months this pain was located in his stomach, unrelated to meals, dull and continuous. In October, 1924, he first noticed pain at the end of the urinary act, which became sharp and burning, and at the same time he developed frequency of urination, having to rise two or three times each night. There was a slight terminal hæmaturia at times, but frequently a terminal pyuria. His upper abdominal pain left and a suprapubic soreness developed which was increased at the end of urination and radiated down the urethra. The pyuria seems to have been intermittent and the hæmaturia at no time severe; the symptom of pain was improved when the pyuria was present. During the last few weeks the onset of urination has been difficult and the amount of urine passed scant. He has lost ten pounds of weight during the past month. There have been no other local or subjective symptoms or signs.

Physical Examination.—The general physical examination presents nothing of interest or bearing on his local condition. Rectal examination reveals a small, firm prostate which is not tender. Above the prostate pressure causes an increase in his hypogastrium pain. Following this examination the desire to void occurred and the patient passed three ounces of clear urine, followed by a small amount of pus. The end of the act was accompanied by an excruciating pain, which caused the patient to double up, and lasted for a period of a minute or more.

Cystoscopic Examination.—The bladder contained no residual urine; had

a capacity of four ounces or more; bladder wall covered with normal mucous membrane except in the fundus, where was found a lesion situated in the neighborhood of four or more centimetres back of the interureteric bar. This lesion measures approximately 2½ cm. in diameter; it is surrounded and bordered by healthy mucous membrane devoid of inflammatory reaction and appears as a shaggy brown mass bulging through a stretched and dilated orifice. The picture is one that suggests some extra-vesical body which is ulcerating its way into the bladder cavity.

Two diagnoses were suggested: 1st, a degenerated gumma of the bladder wall; 2nd, a foreign body. Bearing in mind the history of the patient having had an operation for hemorrhoids, from which he dated the onset of his present complaint, it was thought possible that a sponge had been lost at that operation and was ulcerating its way into the bladder cavity. Efforts were made to obtain the details of this operation to determine whether or not it was a simple " clamp and cautery " procedure or a more extensive resection such as a Whitehead operation. These details could not be obtained. X-ray was taken of the bladder and showed a rather circular-shaped mass apparently extra-vesical and supporting innumerable trabeculi of calcareous character outlining the tumor mass.

June 28, 1925, operation. Suprapubic incision. As soon as the recti muscles were separated it was evident that the condition was one of urachal disease, an elongated tumor mass, the size of a child's fist, immediately being palpated. Realizing the close attachments of these tumors to the peritoneum, excision was started near its umbilical attachment; peritoneal acvity opened, the posterior bladder wall mobilized following the method of Voelker, and as soon as possible, the peritoneum freed from the posterior bladder surface and the peritoneal cavity closed. The mass was resected from the summit of the bladder with 1½ cm. of healthy mucous membrane about its periphery. The bladder was closed about a large mushroom catheter as a drain, and the abdominal incision closed about this. Convalescence was satisfactory, although healing of the wound unusually slow.

July 24, 1925. A catheter was placed in the bladder *per urethram,* and only by sidetracking the urine by this means was the bladder fistula closed three days later. The patient was discharged from the hospital August 21, he having been retained for a month in order to carry out deep X-ray therapy following suprapubic closure.

Description of Specimen (Doctor Bothe).—The mass measures 9 x 5 x 3 cm. The surface is smooth and appears to be covered with a limiting membrane. At one or two points it is quite irregular and from one end oozes gelatinous material (apparently the intravesical area). On section it was found to be fairly firm, due to fibrous bands and in between these fibrous bands are large deposits of colloid material. There are also scattered deposits of a calcareous nature. Microscopic section shows considerable mucoid material, some fibrous tissue and free blood. Scattered throughout are collections of epithelial cells, the general arrangement of which are glandular and these cells are large going from a cuboidal to a columnal type. The appearance of these cells is that of a malignant cell. Diagnosis: Mucoid carcinoma.

PYELOGRAPHY IN RENAL DIAGNOSIS

Dr. Leon Herman read a paper with the above title, for which see page 227.